

03050206-050

(*Providence Swamp*)

General Description

Watershed 03050206-050 is located in Orangeburg County and consists primarily of *Providence Swamp* and its tributaries. The watershed occupies 38,641 acres of the Upper and Lower Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Rains-Goldsboro-Dothan-Noboco-Hobcaw series. The erodibility of the soil (K) averages 0.16 and the slope of the terrain averages 1%, with a range of 0-2%. Land use/land cover in the watershed includes: 55.1% agricultural land, 22.6% forested land, 18.5% forested wetland (swamp), 2.7% barren land, 0.6% urban land, 0.3% nonforested wetland (marsh), and 0.2% water.

The Providence Swamp accepts drainage from White Cane Branch, Cantey Branch (Ball Branch), Buck Branch, Jack Branch, and Horse Range Swamp (Kettle Branch, Bachelor Branch) before flowing into Four Hole Swamp. There are a total of 62.8 stream miles and 88.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
E-051	P/INT	FW	PROVIDENCE SWAMP AT EAST FRONTAGE ROAD TO I-95
E-052	W/INT	FW	HORSE RANGE SWAMP AT U.S. 176

Providence Swamp (E-051) - Aquatic life uses are partially supported due to dissolved oxygen excursions. There is a significant decreasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported.

Horse Range Swamp (E-052) – Aquatic life uses are fully supported. This is a blackwater system, which are often characterized by naturally low pH and dissolved oxygen concentrations. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and considered natural, not standards violations. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM
FACILITY NAME

ND#
TYPE

TILE FIELD
I-95 TRUCK STOP

ND0067130
DOMESTIC

Growth Potential

There is a low potential for growth in this watershed, which contains portions of the Towns of Santee and Vance. I-95 crosses the watershed and some growth may occur around the interchanges of I-95 & U.S. 176 and I-95 & U.S. 15.

Watershed Protection and Restoration Strategies

Special Studies

S.C. State University is the lead organization in a study of Horse Range Swamp, which is threatened by concentrations of fecal coliform bacteria. No permitted discharge facilities are located in the impaired watershed, and it is highly probable that the high concentrations of fecal coliform bacteria are associated with nonpoint source (NPS) pollution. Forestry and agriculture are the prevailing land uses in the watershed. Virtually all of the homes in the watershed are old and use individual septic tanks. Other potential sources include a horse ranch and stable and a racetrack. Preliminary studies of the area showed that many residents are frequently unaware of the ways that their farms, homes, and homestead practices contribute to water quality impairments. The objective of the project is to reduce NPS pollution from the homes and agricultural land uses in the impaired watershed. The project was initiated in 2001 and will conclude in 2004.

The strategies of the project are to investigate specific sources of water quality impairments and to reduce NPS contamination of fecal coliform bacteria by: (1) monitoring water quality in watershed streams and inventorying land uses to identify potential sources of fecal coliform; (2) educating and assisting landowners with livestock, poultry and other animals on their property to implement BMP manure and litter fertilizer application practices, and BMP methods designed to control animal waste from compromising adjacent stream systems; (3) educating and assisting homeowners to implement responsible management of home septic systems, yards and gardens; (4) implementing an education program for the youth in the watershed to promote their “early” awareness of, motivation/interest and skills in, and practice of BMPs, responsible homestead practices, and other water pollution prevention practices.